AMENDMENTS TO THE CLAIMS

In the set of claims within the Application, please amend, retain, or cancel each claim as hereinafter indicated.

1. (Currently Amended) A method of ionizing a liquid propellant, said method comprising the steps of:

(a) applying an electrical charge to a showerhead;

(b) delivering a liquid propellant under pressure into a chamber defined within said showerhead; and

(c) emitting said liquid propellant under pressure through a plurality of micro-nozzles interspaced within the face of said showerhead to create a plurality of jets that collectively produce an electrospray having charged particles;

wherein said showerhead has an electrically conductive face and an electrically insulative layer substantially coating said face, and each of said micro-nozzles is defined through both said electrically conductive face and said electrically insulative layer; and

wherein each of said micro-nozzles has an inner surface that is substantially convergent.

2. (Original) An ionization method according to claim 1, wherein step (a) is accomplished with a power source selected from the group consisting of a direct-current electrical power source and an alternating-current electrical power source.

3. (Original) An ionization method according to claim 1, wherein said showerhead comprises electrically conductive material.

4. (Canceled)

5. (Currently Amended) An ionization method according to claim 1, wherein ~~said showerhead has a face, and~~ said micro-nozzles are substantially evenly spaced apart within said face.

6. (Currently Amended) An ionization method according to claim 1, wherein said liquid propellant comprises an electrically conductive solution having a conductivity of at least 1 ~~siemen~~ siemens per meter.

7. (Original) An ionization method according to claim 1, wherein said liquid propellant comprises an electrolyte.

8. (Original) An ionization method according to claim 1, wherein said liquid propellant is substantially inert.

9. (Original) An ionization method according to claim 1, wherein said liquid propellant comprises salt water.

10. (Original) An ionization method according to claim 1, wherein said liquid propellant comprises a tributyl phosphate solution.

11. (Original) An ionization method according to claim 1, wherein said liquid propellant comprises a liquid metal selected from the group consisting of lithium and mercury.

12. (Canceled)

13. (Previously Presented) An ionization method according to claim 1, wherein said inner surface of each of said micro-nozzles has a shape resembling a structure selected from the group consisting of a cone and a frustum.

14. (Previously Presented) An ionization method according to claim 1, wherein said inner surface of each of said micro-nozzles has a shape resembling a Taylor cone.

15. (Previously Presented) An ionization method according to claim 1, wherein each of said micro-nozzles has a tip outlet with an inner diameter of less than about 10 micrometers.

16. (Previously Presented) An ionization method according to claim 1, wherein each of said micro-nozzles has a tip outlet with an inner diameter of less than about 100 nanometers.

17. (Original) An ionization method according to claim 1, wherein said electrospray comprises charged particles selected from the group consisting of charged droplets, individual ions, solvated ions, solvent molecules, and mixtures thereof.

18. (Original) An ionization method according to claim 1, said method further comprising the step of heating said liquid propellant to thereby elevate and maintain the temperature of said liquid propellant above the characteristic freezing point of said liquid propellant in a vacuum.

19-49. (Canceled)